What is claimed is:

1. A method for forming a multi-transmittance photomask on a transparent substrate comprising the steps of:

forming a first light blocking layer on the substrate;

forming a phase-shifting layer on the first light blocking layer;

forming a second light blocking layer on the phase-shifting layer;

removing a portion of the second light blocking layer to define a first pattern area, the remaining portion of the second light blocking layer defining a second pattern area; wherein

the first pattern area transmits a first percentage of an exposing light, the second pattern area transmits a second percentage of the exposing light, the first percentage being greater than the second percentage.

2. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 1, wherein the first and second light blocking layers are chromium layers,

the first blocking layer having a first transmittance T1 for the frequency of exposure light, and

the second blocking layer having a second transmittance T2 for the frequency of exposure light.

3. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 2, wherein the first transmittance T1 and the second transmittance T2 are unequal.

4. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 1, wherein the phase-shifting layer is an oxide layer.

5. A method for forming a multi-transmittance photomask on a transparent substrate comprising the steps of:

forming a first light blocking layer on the substrate;

forming a phase-shifting layer on the first light blocking layer;

forming a second light blocking layer on the phase-shifting layer;

forming a third light blocking layer on the second light blocking layer;

removing a portion of the third light blocking layer to define a first pattern area and expose a portion of the second light blocking layer;

removing a portion of the exposed portion of the second light blocking layer to define a second pattern area, the remaining portion of the third light blocking layer defining a third pattern area; wherein

the first pattern area has a first transmittance P1 of an exposing light, the second pattern area has a second

transmittance of P2 of the exposing light, and the third pattern area has a third transmittance P3 of the exposing light, having a relationship wherein P2 > P1 > P3.

6. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 5, wherein the first, second and third light blocking layers are chromium layers,

the first light blocking layer having a first transmittance T1 for the exposing light,

the second light blocking layer having a second transmittance T2 for the exposing light, and

the third light blocking layer having a third transmittance T3 for the exposing light.

7. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 5, further comprising the step of forming an etch barrier layer on the second light blocking layer before forming the third light blocking layer. [?It seems that without some interlayer film it would be difficult to control the removal of the third chromium layer from the second chromium layer. And if the control is good, could a selective partial etch of a thick second chromium layer dispense with the need for a third layer? Please advise?]

8. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 5, wherein the phase-shifting layer is an oxide layer and produces a phase-shift Π in the exposing light.

9. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 8, wherein the etch barrier layer is substantially transparent to the exposing light.

10. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 6, wherein $T1 \neq T2$, $T2 \neq T3$, and $T1 \neq T3$.

11. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 6, wherein

the first pattern area transmittance P1 is $T1*T2+\Pi$;

the second pattern area transmittance P2 is $T1+\Pi$; and

the third pattern area transmittance P3 is $T1*T2*T3+\Pi$.

12. A method for forming a multi-transmittance photomask on a transparent substrate according to claim 11, wherein $T1*T2*T3+\Pi < 1\%$.

13. A multi-transmittance photomask on a transparent substrate having a first, second, and third pattern regions;

the first pattern region comprising a stacked structure of a first light blocking layer and a phase-shifting layer;

the second pattern region comprising a stacked structure of the first light blocking layer, the phase-shifting layer, and a second light blocking layer;

the third pattern region comprising a stacked structure of the first light blocking layer, the phase-shifting layer, the second light blocking layer, and a third light blocking layer.

14. A multi-transmittance photomask on a transparent substrate having a first, second, and third pattern regions according to claim 13, wherein

the first, second and third light blocking layers are chromium layers.

15. A multi-transmittance photomask on a transparent substrate having a first, second, and third pattern regions according to claim 14, wherein

the phase-shifting layer comprises an oxide.

16. A multi-transmittance photomask on a transparent substrate having a first, second, and third pattern regions according to claim 13, wherein

the first pattern region transmits more of an exposing light than the second pattern region; and

the second pattern region transmits more of the exposing light than the third pattern region.

17. A multi-transmittance photomask on a transparent substrate having a first, second, and third pattern regions according to claim 16, wherein

the third pattern region has a transmittance of essentially 0% of the exposing light.

18. A method for forming a multi-transmittance photomask on a transparent substrate comprising the steps of:

forming a first light blocking layer on the substrate;

forming a phase-shifting layer on the first light blocking layer;

forming a second light blocking layer on the phase-shifting layer;

forming a third light blocking layer on the second light blocking layer;

forming a first photoresist pattern on the third light blocking layer;

etching the third light blocking layer, the second light blocking layer, the phase-shifting layer, and the first light blocking layer, using the first photoresist pattern as an etch mask, to form exposure openings;

removing the first photoresist pattern;

forming a second photoresist pattern to expose a portion of the third light blocking layer;

etching the third light blocking layer, using the second photoresist pattern as an etch mask, to define a first pattern area and thereby expose a portion of the second light blocking layer;

removing the second photoresist pattern;

forming a third photoresist pattern to expose a portion of the second light blocking layer in the first pattern area;

etching the exposed portion of the second light blocking layer in the first pattern area to define a second pattern area, the remaining portion of the third light blocking layer defining a third pattern area; and

removing the third photoresist pattern, wherein

the first pattern area has a first transmittance P1 of an exposing light, the second pattern area has a second transmittance of P2 of the exposing light, and the third pattern area has a third transmittance P3 of the exposing light, having a relationship wherein P2 > P1 > P3.